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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,339	05/10/2005	David Phillip Devonald	056258-5105	4731
9629 7590 07/22/2008 MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004				
EXAMINER				
MARTIN, LAURA E				
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2853				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/534,339

**Applicant(s)**

DEVONALD, DAVID PHILLIP

**Examiner**

LAURA E. MARTIN

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13, 15-20, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12, 15-20, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 8 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 10, 19, 22, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Eida et al. (US 4395288 A).

#### **Eida et al. disclose the following claim limitations:**

As per claim 1: a liquid medium (abstract) and a tris-azo compound of Formula (1) or salt thereof wherein: A is an alkenyl, homocyclic or heterocyclic group; L1 and L2 are each independently aryl or heteroaryl; and m and n are each independently 0 or 1 such that m+n is 1 or 2; wherein:

- (i) the compound of Formula (1) is not in the form of a metal chelate; and
- (ii) at least one of L1 and L2 carries at least one substituent selected from sulpho, carboxy, C<sub>1-4</sub>-alkoxy and C<sub>1-4</sub>-alkoxy-OH
- (iii) optional substituents present on L1 and L2 are selected from OH, SO<sub>3</sub>H, CN, carbonamido, PO<sub>3</sub>H<sub>2</sub>, CO<sub>2</sub>H, NO<sub>2</sub>, NH<sub>2</sub>, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted aryl, optionally substituted amine and optionally substituted acylamine;
- (iv) at least one of L1 and L2 carries at least one substituent selected

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from sulpho, carboxy, C<sub>1-4</sub>-alkoxy and C<sub>1-4</sub>-alkoxy-OH;

(v) when L1 carries a methoxy group A is not 1,3-diaminophenyl (column 7-8, number 10).

As per claim 2: the composition is applied to the substrate by means of an ink jet printer (column 1, lines 9-31).

As per claim 3: the image is a text, a picture, a photorealistic image, or a combination thereof (column 1, lines 9-31).

As per claim 4: the substrate is paper, plastic, metal, or glass (column 1, lines 9-31).

As per claim 6: a tris-azo compound of Formula (1) or salt thereof wherein:

A is an optionally substituted alkenyl, homocyclic or heterocyclic group;

L1 and L2 are each independently optionally substituted aryl or heteroaryl; and

m and n are each independently 0 or 1 such that m+n is 1 or 2;

wherein:

(i) the compound of Formula (1) is not in the form of a metal chelate; and

(ii) at least one of L1 and L2 carries at least one substituent selected from sulpho, carboxy, C<sub>1-4</sub>-alkoxy and C<sub>1-4</sub>-alkoxy-OH

(iii) optional substituents present on L1 and L2 are selected from OH, SO<sub>3</sub>H, CN, carbonamido, PO<sub>3</sub>H<sub>2</sub>, CO<sub>2</sub>H, NO<sub>2</sub>, NH<sub>2</sub>, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted aryl, optionally substituted amine and optionally substituted acylamine;

(iv) at least one of L1 and L2 carries at least one substituent selected

from sulpho, carboxy, C<sub>1-4</sub>-alkoxy and C<sub>1-4</sub>-alkoxy-OH;

(v) when L1 carries a methoxy group A is not 1,3-diaminophenyl; and

(vi) L1 and L2 each independently carries 0 to 3 substituents such that at least one of L1 and L2 carries at least one substituent selected from the group consisting of sulpho and carboxy (columns 7 and 8, number 10).

As per claim 10: L<sup>2</sup> is phenyl or naphthyl carrying at least one substituent selected from sulfo, carboxy, C<sub>1-4</sub>-alkoxy and C<sub>1-4</sub>-alkoxy-OH substituents (columns 7 and 8, number 10).

As per claims 22 and 23: a paper, an overhead projector slide, or a textile material printed with a composition (column 1, lines 9-31

Claims 1, 5-7, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Demagistri et al. (US 3033846 A).

**Demagistri et al. disclose the following claim limitations:**

As per claim 1: a liquid medium (abstract) and a tris-azo compound of Formula (1) or salt thereof wherein: A is an alkenyl, homocyclic or heterocyclic group; L1 and L2 are each independently aryl or heteroaryl; and m and n are each independently 0 or 1 such that m+n is 1 or 2; wherein:

(i) the compound of Formula (1) is not in the form of a metal chelate; and

(ii) at least one of L1 and L2 carries at least one substituent selected from sulpho, carboxy, C<sub>1-4</sub>-alkoxy and C<sub>1-4</sub>-alkoxy-OH

(iii) optional substituents present on L1 and L2 are selected from OH, SO<sub>3</sub>H, CN, carbonamido, PO<sub>3</sub>H<sub>2</sub>, CO<sub>2</sub>H, NO<sub>2</sub>, NH<sub>2</sub>, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted aryl, optionally substituted amine and optionally substituted acylamine;

(iv) at least one of L1 and L2 carries at least one substituent selected from sulpho, carboxy, C<sub>1-4</sub>-alkoxy and C<sub>1-4</sub>-alkoxy-OH;

(v) when L1 carries a methoxy group A is not 1,3-diaminophenyl (columns 3 and 4, lines 5-15).

As per claims 5 and 12: A is optionally substituted pyridyl, furyl, thienyl, thiazolyl, isothiazolyl, imidazolyl, benzimidazolyl, pyrazinyl, pyrimidyl, quinolyl, isoquinolyl, benzofuryl, benzothienyl, pyrazolyl, indolyl, purinyl, isoxazolyl, oxazolyl, thiadiazolyl, furazanyl, pyridonyl, pyrazolonyl, piperidinyl, piperazinyl, pyrrolidinyl, morpholinyl, tetrahydrofuranyl, tetrahydrothiophenyl or tetrahydropyranyl; L1 is phenyl or naphthyl optionally carrying a substituent selected from sulpho and carboxy; L2 is phenyl or naphthyl carrying at least one substituent selected from sulpho, carboxy C<sub>1-4</sub>-alkoxy and C<sub>1-4</sub>-alkoxy-OH; and m and n are each independently 0 or 1 such that m+n is 1 or 2; wherein said optional substituents are selected from OH; SO<sub>3</sub>H; CN; carbonamido; PO<sub>3</sub>H<sub>2</sub>; CO<sub>2</sub>H; NO<sub>2</sub>; NH<sub>2</sub>; unsubstituted C<sub>1-4</sub>-alkyl or substituted C<sub>1-4</sub>alkyl carrying a sulpho, carboxy, phosphato, C<sub>1-4</sub>-alkoxy, amino or hydroxy group; unsubstituted C<sub>1-4</sub>-alkoxy or substituted C<sub>1-4</sub> carrying a sulpho, carboxy, phosphato, C<sub>1-4</sub>-alkoxy, C<sub>1-4</sub>-alkyl, amino or hydroxy group; phenyl or phenyl carrying from 1 to 3 substituents selected from sulpho, carboxy, phosphato, C<sub>1-4</sub>-alkoxy, amino, hydroxy and N carrying one or two

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unsubstituted C<sub>1-4</sub>-alkyl groups or substituted C<sub>1-4</sub>-alkyl groups carrying a sulpho, carboxy, phosphato, C<sub>1-4</sub>-alkoxy, amino or hydroxy group; N carrying one or two unsubstituted C<sub>1-4</sub>-alkyl groups or substituted C<sub>1-4</sub>-alkyl groups carrying a sulpho, carboxy, phosphato, C<sub>1-4</sub>-alkoxy, amino or hydroxy group; and C<sub>1-4</sub>-acylamino (columns 3 and 4, lines 5-15).

As per claim 6: a tris-azo compound of Formula (1) or salt thereof wherein:

A is an optionally substituted alkenyl, homocyclic or heterocyclic group;

L1 and L2 are each independently optionally substituted aryl or heteroaryl; and

m and n are each independently 0 or 1 such that m+n is 1 or 2;

wherein:

(i) the compound of Formula (1) is not in the form of a metal chelate; and

(ii) at least one of L1 and L2 carries at least one substituent selected from sulpho, carboxy, C<sub>1-4</sub>-alkoxy and C<sub>1-4</sub>-alkoxy-OH

(iii) optional substituents present on L1 and L2 are selected from OH, SO<sub>3</sub>H, CN, carbonamido, PO<sub>3</sub>H<sub>2</sub>, CO<sub>2</sub>H, NO<sub>2</sub>, NH<sub>2</sub>, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted aryl, optionally substituted amine and optionally substituted acylamine;

(iv) at least one of L1 and L2 carries at least one substituent selected from sulpho, carboxy, C<sub>1-4</sub>-alkoxy and C<sub>1-4</sub>-alkoxy-OH;

(v) when L1 carries a methoxy group A is not 1,3-diaminophenyl; and

(vi) L1 and L2 each independently carries 0 to 3 substituents such that at least one of L1 and L2 carries at least one substituent selected from the group consisting of sulpho and carboxy (columns 3 and 4, lines 5-15).

As per claim 7: A is unsubstituted or substituted pyridyl, furyl, thienyl, thiazolyl, isothiazolyl, imidazolyl, benzimidazolyl, pyrazinyl, pyrimidyl, quinolyl, isoquinolyl, benzofuryl, benzothienyl, pyrazolyl, indolyl, purinyl, isoxazolyl, oxazolyl, thiadiazolyl, furazanyl, pyridonyl, pyrazolonyl, piperidinyl, piperazinyl, pyrrolidinyl, morpholinyl, tetrahydrofuranyl, tetrahydrothiophenyl or tetrahydropyranyl (columns 3 and 4, lines 5-15).

As per claim 11: L<sup>2</sup> is phenyl carrying two C<sup>1-4</sup>-alkoxy-OH substituents (columns 3 and 4, lines 5-15).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eida et al. (US 4395288 A) in view of Ciba Limited (GB 741578 A).

#### **Eida et al. disclose the following claim limitations:**

The formula of claims 1 and 6.

**Eida et al. do not disclose the following claim limitations:**

As per claim 9: L<sup>1</sup> is unsubstituted phenyl or naphthyl or phenyl or naphthyl carrying a substituent selected from sulpho and carboxy.

As per claim 15: wherein a low melting point solid or a liquid medium comprising water and an organic solvent wherein the compound of formula 1 is not formula 3 or a salt thereof.

As per claim 16: a compound of formula 1 or a salt thereof and a low melting point solid or a liquid medium comprising water and an organic solvent.

As per claim 17: a concentration of less than 500 ppm of halide ions, wherein parts refer to parts by weight relative to the total weight of the concentration.

As per claim 18, less than 50 ppm of divalent or trivalent metals, wherein parts refer to parts by weight relative to the total weight of the composition.

**Ciba Limited discloses the following claim limitations:**

As per claim 9: L<sup>1</sup> is unsubstituted phenyl or naphthyl or phenyl or naphthyl carrying a substituent selected from sulpho and carboxy (page 1, lines 5-55).

As per claim 15: wherein a low melting point solid or a liquid medium comprising water and an organic solvent wherein the compound of formula 1 is not formula 3 or a salt thereof (page 1, formulas 1 and 3).

As per claim 16: a compound of formula 1 or a salt thereof and a low melting point solid or a liquid medium comprising water and an organic solvent (example 1, page 3, lines 68-106).

As per claim 17: a concentration of less than 500 ppm of halide ions, wherein parts refer to parts by weight relative to the total weight of the concentration (page 1).

As per claim 18, less than 50 ppm of divalent or trivalent metals, wherein parts refer to parts by weight relative to the total weight of the composition (page 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the compound taught by Eida et al. with the disclosure of Ciba Limited in order to provide a higher quality image.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eida et al. (US 4395288 A) and Ciba Limited (GB 741578 A), and further in view of Murcia et al. (US 2001/0012027 A1).

**Eida et al. as modified disclose the following claim limitations:**

As per claim 20: the composition taught in claim 15.

**Eida et al. as modified do not disclose the following claim limitations:**

As per claim 20: an ink jet printer cartridge comprising one or more chambers and a composition, wherein the composition is present in at least one of the chambers.

**Murcia et al. disclose the following claim limitations:**

As per claim 20: an ink jet printer cartridge comprising one or more chambers and a composition, wherein the composition is present in at least one of the chambers (figure 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition taught by Eida et al. as modified with the disclosure

of Murcia et al. in order to having a functioning printer. It is well known in the art for ink jet inks to be stored in cartridges.

### ***Allowable Subject Matter***

Claims 8 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-13, 15-20, 22, and 23 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURA E. MARTIN whose telephone number is (571)272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura E. Martin

/L. E. M./

Examiner, Art Unit 2853

/Manish S. Shah/

Primary Examiner, Art Unit 2853